

JournalScan

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ISCHAEMIC HEART DISEASE

Patients often discontinue cardiac medication within six months for no apparent reason ► In the GRACE registry, of 13 830 patients, discontinuation of treatment was observed at six month follow up in 8% of those taking aspirin on discharge, 12% of those taking β blockers, 20% of those taking angiotensin converting enzyme (ACE) inhibitors, and 13% of those taking statins. The reasons for this were not clear. Patients with hypertension were more likely than others to discontinue statins, while cardiologists appeared to get better compliance, at least for aspirin treatment.

▲ **Eagle KA**, Kline-Rogers E, Goodman SG, Gurfinkel EP, Avezum A, Flather MD, Granger CB, Erickson S, White K, Gabriel Steg P. Adherence to evidence-based therapies after discharge for acute coronary syndromes: an ongoing prospective, observational study. *Am J Med* 2004;117:73-81.

Is stress echocardiography better than perfusion scanning? ► Dobutamine stress technetium 99m (^{99m}Tc)-sestamibi SPECT and dobutamine stress echocardiography were undertaken in 301 patients who were unable to perform exercise tests. Outcomes during a mean (SD) follow up of 7.3 (2.8) years were overall death, cardiac death, non-fatal myocardial infarction, and late (> 60 days) coronary revascularisation. Abnormal myocardial perfusion was detected in 66% of patients ($n = 198$), while 60% ($n = 182$) had an abnormal stress echocardiogram; agreement was 82% ($\kappa = 0.62$). During the follow up period, 100 deaths occurred, of which 43% were due to cardiac causes. Non-fatal myocardial infarction occurred in 23 patients (8%), and 29 (10%) underwent late revascularisation. With stress SPECT, annual event rates were 0.7% for cardiac death and 3.6% for all cardiac events after a normal scan, and 2.6% and 6.5%, respectively, after an abnormal scan ($p < 0.0001$). For stress echocardiography, annual event rates were 0.6% for cardiac death and 3.3% for all cardiac events after a normal test, and 2.8% and 6.9%, respectively, after an abnormal test ($p < 0.0001$). Thus these two modalities are confirmed to be about equivalent.

▲ **Schinkel AFL**, Bax JJ, Elhendy A, *et al.* Long-term prognostic value of dobutamine stress echocardiography compared with myocardial perfusion scanning in patients unable to perform exercise tests. *Am J Med* 2004;117:1-9.

Is clopidogrel cost effective? ► For peripheral vascular disease (PVD), the answer to this question may be yes, but for ischaemic heart disease it appears to be no. Data from the CAPRIE (clopidogrel versus aspirin in patients at risk of ischaemic events) study of patients with vascular disease given either aspirin or clopidogrel suggested that the cost effectiveness of clopidogrel monotherapy was \$25 100 per quality adjusted life-year (QALY), as compared with aspirin. In post-stroke patients, clopidogrel increased life expectancy at a cost of \$31 200 per QALY. Aspirin was both less expensive and more effective than clopidogrel in post-myocardial infarction patients. These results are explained by the fact that in the CAPRIE trial, the PVD group had the highest event rates and risk of death. Analysis of more recent trials is awaited.

▲ **Schleinitz MD**, Weiss JP, Owens DK. Clopidogrel versus aspirin for secondary prophylaxis of vascular events: a cost-effectiveness analysis. *Am J Med* 2004;116:797-806.

▲ **CAPRIE Steering Committee**. A randomised, blinded, trial of clopidogrel versus aspirin in patients at risk of ischaemic events (CAPRIE). *Lancet* 1996;348:1329-39.

Folate is not the answer to restenosis ► Several studies have suggested that folic acid treatment may reduce smooth muscle proliferation and so reduce in-stent restenosis. A total of 636

patients who had undergone successful coronary stenting were randomly assigned to receive 1 mg of folic acid, 5 mg of vitamin B₆, and 1 mg of vitamin B₁₂ intravenously, followed by daily oral doses for six months, or to receive placebo. At follow up, the mean (SD) minimal luminal diameter was significantly smaller in the folate group than in the placebo group (1.59 (0.62) mm v 1.74 (0.64) mm, $p = 0.008$), and the extent of late luminal loss was greater (0.90 (0.55) mm v 0.76 (0.58) mm, $p = 0.004$). The restenosis rate was higher in the folate group than in the placebo group (34.5% v 26.5%, $p = 0.05$), and a higher percentage of patients in the folate group required repeated target vessel revascularisation (15.8% v 10.6%, $p = 0.05$). Folate treatment had adverse effects on the risk of restenosis in all subgroups except for women, patients with diabetes, and patients with notably raised homocysteine concentrations ($\geq 15 \mu\text{mol/l}$) at baseline.

▲ **Lange H**, Suryapranata H, De Luca G, Börner C, Dille J, Kallmayer K, Pasalary MN, Scherer E, Dambrink J-H E. Folate therapy and in-stent restenosis after coronary stenting. *N Engl J Med* 2004;350:2673-81.

HEART FAILURE

Dobutamine + amiodarone to improve heart failure

► Positive inotropic agents are known to improve haemodynamic function in end stage heart failure (ESHF), but they may worsen survival through a pro-arrhythmic effect. Intermittent infusions of dobutamine have been shown to exert a sustained haemodynamic effect, without inducing tachyphylaxis. In 30 patients with ESHF, left ventricular ejection fraction < 35%, and refractory to standard medical treatment, were randomised, in a double blind prospective manner to intermittent intravenous dobutamine 10 $\mu\text{g/kg/min}$ for eight hours every two weeks or placebo. All patients received front loading with amiodarone which was started two weeks before randomisation and continued throughout the trial. The primary end point of death from any cause in the dobutamine and the placebo arms at one year were 69% and 44%, respectively, and at two years were 28% and 21%, respectively (both $p < 0.05$). This was associated with reduced pulmonary capillary wedge pressure and improved function in the dobutamine arm. Interestingly, only patients who were intolerant of β blockade (as shown by prior clinical deterioration with metoprolol) were included. Furthermore, none of the patients were on angiotensin II antagonists, which would have been recommended based on Val-HeFT trial data.

▲ **Nanas JN**, Tsagalou EP, Kanakakis J, Nanas SN, Terrovitis JV, Moon T, Anastasiou-Nana MI. Long-term intermittent dobutamine infusion, combined with oral amiodarone for end-stage heart failure: a randomized double-blind study. *Chest* 2004;125:1198-204.

HYPERTENSION

Valsartan did not show added VALUE ► A total of 15 245 patients, aged 50 years or older with treated or untreated hypertension and high risk of cardiac events, participated in a randomised, double blind, parallel group comparison of treatment based on valsartan or amlodipine (VALUE). Blood pressure was reduced by both treatments, but the effects of the amlodipine based regimen were more pronounced, especially in the early period (blood pressure 4.0/2.1 mm Hg lower in amlodipine than valsartan group after one month; 1.5/1.3 mm Hg after one year; $p < 0.001$ between groups). The primary composite end point occurred in 810 patients in the valsartan group (10.6%, 25.5 per 1000 patient-years) and 789 in the amlodipine group (10.4%, 24.7 per 1000 patient-years; hazard ratio 1.04, 95% confidence interval 0.94 to 1.15; $p = 0.49$). This result appears at odds with the HOPE trial of ramipril and the LIFE trial with losartan—possibly because blood pressure control was not equivalent in the two groups in the present study, masking any benefits from valsartan treatment.

▲ **Julius S**, Kjeldsen SE, Weber M, Brunner HR, Ekman S, Hansson L, Hua T, Laragh J, McInnes GT, Mitchell L, Plat F, Schork A, Smith B, Zanchetti A, for the

VALUE Trial Group. Outcomes in hypertensive patients at high cardiovascular risk treated with regimens based on valsartan or amlodipine: the VALUE randomised trial. *Lancet* 2004;**363**:2022–31.

Journals scanned

American Journal of Medicine; American Journal of Physiology: Heart and Circulatory Physiology; Annals of Emergency Medicine; Annals of Thoracic Surgery; Archives of Internal Medicine; BMJ; Chest; European Journal of Cardiothoracic Surgery; Lancet; JAMA; Journal of Clinical

Investigation; Journal of Diabetes and its Complications; Journal of Immunology; Journal of Thoracic and Cardiovascular Surgery; Nature Medicine; New England Journal of Medicine; Pharmacoeconomics; Thorax

Reviewers

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IMAGES IN CARDIOLOGY

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Arrhythmogenic right ventricular cardiomyopathy

These are the images of a previously fit 24 year old man who was found struggling for breath. He collapsed and died. He had no significant past medical history, and there was no family history of sudden death.

Panel B shows a macroscopic short axis slice of the heart, where yellow streaks can be seen in the right ventricular (RV) myocardium, most prominently in the inferior wall and the septum (arrows).

Panel A is a postmortem turbo spin echo magnetic resonance image of the same slice, which shows an increased signal intensity in the RV myocardium corresponding to the yellow streaks seen on the macroscopic specimen (arrows).

Panel C shows a histopathologic specimen stained with haematoxylin-eosin taken from the RV of the same heart. Large numbers of adipocytes (yellow) are seen within the RV myocardium, especially subendocardially, as well as remaining cardiomyocytes (red).

Panel D demonstrates how adipocytes stained yellow are interspersed with remaining cardiomyocytes. Note also the increased amount of collagen stained red indicating fibrosis. Trichrome stain.

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